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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/510,828 | 02/23/2000 | David R. Hembree | MIO-0020-VA/97-0198.02 | 4871 |

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EXAMINER

MITCHELL, JAMES M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2827

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/510,828

Applicant(s)

HEMBREE ET AL.9

Examiner

James Mitchell

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29-31, 36-40, 44-47, 50, 51, 54-56, 63-65 and 68-70 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

- 5) ☐ Claim(s) 44-47, 50, 51, 54-65, 68 and 69 is/are allowed.

- 6) ☐ Claim(s) 29-31 and 36-40 is/are rejected.

- 7) ☐ Claim(s) 73 is/are objected to.

- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to applicant's response filed April 24, 2002.

Claim Rejections - 35 USC § 102

2. Claims 29, 30, 31, 36-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Budnaitis (U.S 6,046,060).
3. Budnaitis (Fig. 2) discloses an interconnect structure (9) comprising a plurality of patterned conductors (20) to match corresponding contacts (3) on a semiconductor die (1) within a package (Column 1, Lines 14-18), an attachment device (17,7,8,15) arranged to press the semiconductor against the interconnect structure to provide electrical contact, the attachment device comprised of a spring element via the compressibility of the biasing elastomeric material (8) and a copper conductive member that is comprised of conductive particles interspersed within the elastomeric material (Column 7, Lines 29-31; Column 24, Lines 21-24)

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budnaitis in combination with Haseyama (U.S. 6,229,320).

7. Budnaitis does not explicitly disclose that the package is a ball grid array, however Haseyama teaches the use of a ball grid array package

8. It would have been obvious to one of ordinary skill in the art to form the package of Budnaitis as a ball grid array in order to provide a package as shown by Haseyama (Column 1, Line 21).

Allowable Subject Matter

9. The indicated allowability of claims 36, 39 and 40 were withdrawn in view of the newly discovered reference.

10. Claim 73 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. Claims 44-47, 50, 51, 54-56, 63-65, 68, 69 and 73 are allowed.

12. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not disclose or make obvious a second elastic member being

positioned in the holes of the first elastic member, the conductive member comprising carbon, or an elastic member having a variable spring constant.

Response to Arguments


13. Applicant's arguments with respect to claims 29-31,37 and 38 have been considered but are moot in view of the new ground(s) of rejection.

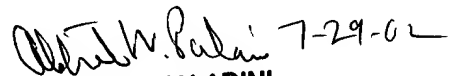
Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mitchell whose telephone number is (703) 305-0244. The examiner can normally be reached on M-F 10:30-8:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Talbott can be reached on (703) 305-9883. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-3230 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


jmm
July 29, 2002

 7-29-02
ALBERT W. PALADINI
PRIMARY EXAMINER